REMARKS

Claims 21-40 remain in this application.

With regard to the examiner's rejection of claim 21, applicants believe that the rejection is inappropriate for the following reasons.

First, claim 21 recites a reforming system for a fuel cell comprising at least one pump which is a **metering pump whose RPM is regulated by means of control unit**. In contrast to this, Fleck et al shows a metering system comprising a fuel conveying pump 4a for delivering a **fixed mass** of water or methanol (column 2, lines 42 to 46). In Fleck et al, the metering action is performed by a valve 7a connected to a control unit 13 which presets the quantity of water or methanol as a function of the operating parameters of the fuel cell system (column 3, lines to 4). The structure of the Fleck et al reference does not control the pumps to give a metered supply of fuel. Rather, in Fleck et al the pump and its control is designed to always supply a quantity of fuel which is greater than is necessary, and then, by means of a mechanical differential pressure valve 9 a portion of this over supply of fuel is returned to the tank 3a.

Thus, the structure disclosed by Fleck et al is not the same as the structure which is recited in claim 21, because Fleck et al does not have structure to control the RPM of a supply pump.

Second, in the system of Fleck et al there is no connection provided between control unit 13 and fuel pump 4a. Therefore, Fleck et al does not show any pump which is a metering pump whose RPM is regulated by means of a control unit, as is recited in lines 7-8 of claim 21. Instead of a metering pump, Fleck et al use a pump which provides a fixed volume, which pump is

driven at a constant RPM, not at a regulated and controlled RPM. Thus, the system of Fleck et al is not the same as recited in claim 21.

Moreover, one advantage of the structure as recited in applicants' claim 21 as opposed to the structure taught by Fleck et al is that the structure of Fleck et al additionally requires a return conduit 8a for the excess fuel. Such a return is not required for applicants' system, and accordingly, the system as recited applicants' claim 21 can be made much simpler than can the system of Fleck et al. And this resulting simpler structure is a direct result of the structure which is recited in claim 21.

According to the structure as disclosed by Fleck et al, the fuel pump 4a acts as circulation pump, not as in applicants' structure in which the pump is a controlled by the control unit and supplies only the amount of fuel which is actually needed. Thus applicants' pump uses only the exact amount of energy necessary to supply the correct amount of fuel, it does not act as circulation pump as in Fleck et al .

From applicants' point of view, claim 21 is clearly allowable over Fleck et al since Fleck et al does not teach all of the elements of structure which are recited in claim 21, as pointed out above.

And certainly claim 22, which further recites that the fuel pump is an electric pump which serves as a metering pump, is a feature which is not taught by Fleck et al since the pump 4a of Fleck et al is a circulation pump, thus it clearly is not a metering pump.

With regard to claims 24-26, which recite that the at least one pump comprises first and second pumps connected in series, Fleck et al clearly does not teach such serial pumps. The

examiner has indicated on page 3 of the action that at column 3, lines 17-32, Fleck et al speak of a two stage design, and the examiner has apparently taken this to mean plural pumps which are connected in series. But this is clearly not the case. A reading of this section of Fleck et al reveals that Fleck et al are speaking of a two stage differential pressure controller comprised of pressure controllers 9a and 15a. There is absolutely nothing in Fleck et al which recites their two stage design includes a second pump in series with the first pump. Thus, the structure of pumps in series, as recited in applicants' claim 24, and which serial pump structure is further recited and amplified in claims 25 and 26, is not, as indicated by the examiner, anticipated by the structure of Fleck et al.

With regard to claim 27, applicants do not see anything recited in Fleck et al which indicates that the pressure is monitored. The differential pressure controller 9a of Fleck et al appears to be nothing more than a valve, which valve does not in any way include structure which senses the pressure as recited in claim 27. For this reason, in addition to the reasons already pointed out above as to why claim 21 is not properly rejected as anticipated by Fleck et al, claim 27 even further does not properly fit in the examiner's rejection, as anticipated by Fleck et al, since Fleck et al does not teach all of the structure which is recited in claim 27.

With regard to the examiner's rejections of claims 29-30, where he has relied on either of Kirwin et al or Benz to combine with Fleck et al, it appears to applicants that both of these references are from an entirely different field of invention. In particular, these references are from the field of controlling exhaust from an internal combustion engine, which is completely non-analogous to the art of controlling fuel input to a fuel cell. Further for this reason, as well

as the shortcomings of the rejections as pointed out above, it is not seen that the rejections of claims 29 and 30, which rely on these non-analogous references, can possibly be valid rejections.

With regard to claim 31, clearly there is no teaching in the reference to Fleck et al of monitoring and controlling the RPM of the pump. To supply such a teaching, the examiner has relied on the reference to Eisele et al. But Eisele et al does not teach an rpm sensor, the output of which is used to control a pump. The rpm sensor of Eisele et al is used to control the rpm of the engine, **not its fuel pump**. Thus it is seen that, in addition to the features which have already been pointed out above to be lacking from the rejection of base claim 21, the reference to Eisele et al does not provide this further teaching which would be necessary for a proper rejection of claim 31. The examiner has pointed to both column 1 lines 43-45 and column 5, lines 39-47 as teaching the concept of controlling the rpm of the fuel pump. But it is pointed out that nothing of the sort is expressed in these, or any other section of Eisele et al. Eisele et al simply does not teach the concept of controlling the rpm of a fuel pump to control the amount of fuel being pumped to any kind of engine, whether it is an internal combustion engine, diesel engine, or certainly not to a fuel cell.

And with regard to claim 32, there is absolutely no teaching of measuring a pressure and controlling a pump in response to this measured pressure. The examiner has pointed to column 3, lines 35-50, but here again, the actual recitation in Eisele et al says nothing about controlling the RPM of a pump. Instead, in the last three lines of this recitation, Eisele et al recite that the duration of an injection is controlled in response to this measurement of pressure, and this measurement of pressure is not used to control the RPM of a fuel pump.

With regard to claim 33, the examiner has indicated that Fleck et al and Eisele et al are being combined as in the rejection of claim 31. But not only do these references not teach the invention of claim 31, but further the sensor 72 of Eisele et al is not an RPM sensor, as indicated by the examiner as part of the rejection, see Eisele et al at column 5 lines 39-41. Instead, element 72 is a comparator. The RPM being stated by Eisele et al at this section is the RPM of the diesel engine, not of a fuel pump.

In this rejection of claim 33 the examiner has gone on to include, as part of the evidence used to support this rejection, citation of the reference to McArthur. But McArthur is a reference which teaches controlling fuel input to a gas turbine engine. Not only is this a teaching which has strayed a long way away from controlling a fuel cell, but nowhere in the reference to McArthur is there any teaching of controlling the RPM of a fuel pump. In McArthur the quantity of fuel input to the fuel pump is controlled by use of a pulse width modulated valve, but McArthur does not include a teaching of controlling the RPM of the fuel pump. Thus McArthur cannot teach the factors which are recited in claim 33, nor the claims on which it depends, and which factors are missing from the prior references. McArthur does not teach controlling the RPM of a fuel pump, nor do any of the other cited references.

Likewise claims 34-39 add further limitations to the invention as recited in claim 21. Thus, these claims are allowable for the same reasons that make claim 21 allowable, as specified above. And further, these claims are allowable by reason of the additional limitations added within them, which additional limitations are not shown or taught by the cited prior art.

For example, none of the cited prior art teaches storing a characteristic curve of the pump

and using this to help control the RPM of the pump as recited in claim 34.

Thus in summary, the reference to Fleck et al does not teach the basic structure as recited in claim 21, contrary to the examiner's assertions. And further, none of the cited secondary references include any teaching which supplies the deficiency of the reference to Fleck et al as compared to claim 21. Nor do any of the secondary references provide any teaching under which it could fairly be said that the structure of claim 21, or any of the succeeding claims, would be be obvious to one skilled in the art.

For the above reasons, reconsideration and allowance of the claims are courteously solicited.

Respectfully submitted,

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